DOCUMENT RESUME

ED 372 053 SP 035 342

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TITLE Educational and Career Development for the Exercise Science Major: An Introduction.
PUB DATE 27 Apr 94
NOTE 23p.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Career Development; Credentials; *Exercise Physiology; Higher Education; Intellectual Disciplines; *Majors (Students); *Occupations; Organizations (Groups); *Physical Education; *Professional Education; Salaries

ABSTRACT

Physical education and exercise science are sometimes indistinguishable disciplines, though physical education's primary focus is on schools and school-aged children while exercise science focuses on nonschool settings and populations. As a discipline, exercise science can be broken down into scientific, clinical, and service aspects. Depending upon the academic department in which the exercise science program is housed, general requirements, program-specific curriculum, secondary fields of study, and electives vary widely among programs. Approximately one-third of the academic program comprises elective courses tailored to specific aspects of exercise science. Identified are 26 occupational titles, in addition to 26 occupational settings. Salary surveys suggest that individuals graduating with an undergraduate degree can expect to earn a mean income between $17,700 and $23,143 in most metropolitan areas, with the amount influenced by the type of degree and occupational setting. The credentialing of exercise science professionals is a monumental undertaking as they include a diverse group of occupations from aerobics instructor to orthopedic surgeon. Credentialing may be earned by the individual or the institution where the individual is educated or works, and may take the form of accreditation, licensure, registration, or certification. Appendixes list names and addresses of trade and professional associations and credentialing organizations. (Contains 18 references.) (JDD)

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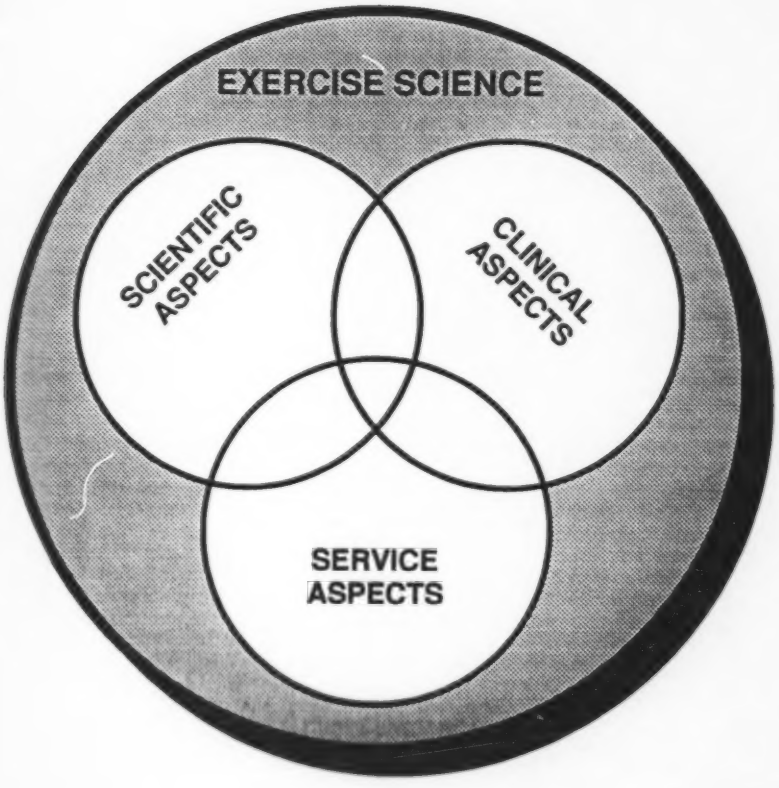
ED 372 053

EDUCATIONAL AND CAREER DEVELOPMENT FOR THE EXERCISE SCIENCE MAJOR:

AN INTRODUCTION



Jim Milani
EXSA 293
Dr. Pat Sullivan
April 27, 1994

SP035342

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Physical Education and Its Link to Exercise Science

Traditionally, those who have majored in physical education have been preparing for teaching and coaching positions at the elementary and secondary school level (Zak, 1992; Lumpkin, 1990; Cobb, 1987). However, the last 25 years have seen fewer full-time teaching and coaching positions available (Lumpkin, 1990). Therefore, those with a degree in physical education have had to pursue alternative career opportunities.

Shifting job markets, due in large part to the advent of the fitness boom, have greatly affected the physical education major, and have also influenced the growth and direction of many college and university physical education programs (Bucher, 1987). In response to the ever changing job market, a number of physical education subdisciplines have emerged, the largest being exercise science (Bucher, 1987).

Physical education and exercise science are sometimes indistinguishable disciplines. Both involve the educational process and aim to improve human performance through the medium of physical and health education (Bucher, 1987). However, physical education's primary focus is on schools and school-aged children, while exercise science focuses on non-school settings and populations (Lumpkin, 1990; Bucher, 1987). As a discipline, exercise science can be broken down into scientific, clinical, and service aspects. Each aspect encompasses a unique, organized, and formal body of knowledge.

Aspects of the Exercise Science Discipline

Below, a brief summary of the scientific, clinical, and service aspects of exercise science are given and subdisciplines are identified.

A. Scientific Aspects. The scientific, or academic, aspects of the exercise science discipline focuses on researching, conceptualizing, and theorizing.

1. Exercise Physiology. Exercise physiology is the description and explanation of the functional changes that occur with both acute and chronic exercise. The exercise physiologist is concerned with aerobic capacity, fatigue, and the performance effects of various training methods.

2. Biomechanics. Biomechanics is the description and explanation of the laws of physics as applied to exercise and sport. The biomechanist is concerned with the musculoskeletal system, human motion, sports object motion, and mechanical analysis of activities.

3. Sport Psychology. Sport psychology is the description and explanation of how the mind works during exercise and sport situations. The sport psychologist is concerned with motor learning and performance factors that affect learning and performance on motor skills.

4. Sport Sociology. Sport sociology is the description and explanation of the influence of groups on individual and group behavior associated with exercise and sports. The sport sociologists is concerned with how sport influences, and is influenced, by institutions, politics, religion, economics, and the mass media.

5. Motor Learning. Motor learning is the description and explanation of the neural bases of the planning, execution, control, patterning and learning of movement. The motor learning specialist is concerned with understanding the stages of learning and how to facilitate learning.

6. Motor Development. Motor development is the description and explanation of the factors influencing the development of movement abilities. The motor development specialist is concerned with the long term (lifespan) analysis of genetic and environmental factors that affect an individuals ability to perform skills.

7. Sports Nutrition. Sports nutrition is the description and explanation of nutrition during acute and chronic activity. The sports nutritionist is concerned with nutrient intake and utilization in sport activities, optimal provision of nutrients for sports, and the prescription of altered patterns of caloric intake and expenditures to achieve optimal body composition.

B. Clinical Aspects. The clinical aspects of the exercise science discipline applies the knowledge gained from the scientific aspects in order to assist those involved in exercise and sport. The clinical aspects also explore physiological and psychological factors responsible for influencing adherence, compliance, injury, and performance. This includes the study of environment, drugs, growth, and group/individual dynamics on physical performance, the evaluation of an individual's functional and mental ability and condition, and providing therapeutic treatment of physiological and psychological dysfunction.

1. Sports Medicine. Sports medicine is the practice of medicine related to exercise and sport.

2. Athletic Training. Athletic training is the practice of participant care and prevention of illness and injury associated with exercise and sport.

3. Clinical Therapy. Clinical therapy is the practice of exercise and physical modality rehabilitation following trauma or disease. These include: corrective (or kinesio) therapy, physical therapy, recreation therapy, cardiac rehabilitation, pulmonary rehabilitation, and dance therapy.

4. Clinical (Sport/Exercise) Psychology. Clinical sport psychology is the practice of counseling those participating in sport and exercise, and address such individualized issues as behavioral modification, eating disorders, stress, self-confidence/self-esteem, sports aggression, and athletic slumps.

C. Service Aspects. The service aspects of the exercise science discipline focus on teaching knowledge, skills, and values to a diverse range of age groups and skill levels. Again, many of the scientific aspects can be applied to the service aspects under the auspices of either fitness or health.

1. Fitness Related Services. Fitness related services are concerned with the fitness behaviors of people. The intent of the fitness services is the development of fitness knowledge and physical and motor fitness, fundamental motor skills and patterns, skills in aquatics, dance, individual and group activities and sports, reinforce of positive fitness behavior, and aid in the adherence to these positive behaviors.

2. Health Related Services. Health related services are concerned with the health related behaviors of people. Its intent is the development of health knowledge and the exploration of options for behavioral change and their consequences.

Undergraduate Course Work and Majors

Course Work in the Exercise Science Major. The following information was developed based on current exercise science programs surveyed throughout the United States. Schools represented in this survey of college bulletins include Adelphi University, Ithica College, Northeastern Illinois, Ohio State University, Penn State University, San Diego State, Springfield College, SUNY at Cortland, University of Pittsburgh, University of Southern Florida, and University of Wisconsin-La Crosse.

Depending upon the academic department in which the exercise science program is housed, general requirements, program specific curriculum, secondary fields of study, and electives may vary widely between schools. However, most of the general requirements include course work in english composition, english literature, social science, communication, computer literacy, math, and statistics. It should also be remembered that approximately one-third of the academic program will be made up of elective courses which can be tailored to the exercise science aspect that the student is interested in exploring or working.

DEPT	COURSE	SCIENTIFIC ASPECT	CLINICAL ASPECT	SERVICE ASPECT
(ACCT)	Accounting			X
(AT)	Athletic Training and Rehabilitation		X	X
(AT)	Prevention and Care of Sports Injuries		X	X
(BIO)	Aging	X	X	
(BIO)	Anatomy	X	X	X
(BIO)	Biology (For science majors)	X	X	
(BIO)	Biology (For non-science majors)			X
(BIO)	Biostatistics	X		
(BIO)	Cellular Physiology	X	X	
(BIO)	Human Nutrition	X	X	X
(BIO)	Human Physiology	X	X	X
(BIO)	Plant Biology	X	X	
(BUS)	Business and Professional Communication			X
(CHEM)	Chemistry (For non-science majors)			X
(CHEM)	Chemistry (For science majors)	X	X	
(CHEM)	Organic Chemistry (For science majors)	X	X	
(COMP)	Computer Literacy	X	X	X
(ECON)	Macroeconomics			X
(ECON)	Microeconomic			X
(EDUC)	Curriculum and Methods in Physical Education			X
(EDUC)	Motivation and Learning			X
(ENG)	English Literature	X	X	X
(ENG)	English Composition	X	X	X
(ENV)	Human Ecology			X
(ES)	Biomechanics	X	X	X
(ES)	Career Development	X	X	X
(ES)	Coaching			X
(ES)	Exercise Physiology	X	X	X
(ES)	Fitness Testing and Prescription for the Normal (Healthy) Population	X	X	X
(ES)	Fitness Testing and Prescription for Special Populations	X	X	X
(ES)	Kinesiology	X	X	X
(ES)	Leadership in Exercise and Sports Programs			X
(ES)	Motor Development	X	X	X
(ES)	Motor Learning	X	X	X

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(ES)	Personal Health and Wellness	X	X	X
(ES)	Sports Nutrition	X		X
(ES)	Adapted Physical Education	X	X	X
(FIN)	Business Finance		X	X
(HE)	Community Health	X		
(HE)	Economics of Health	X	X	X
(HE)	Health Education			X
(MARK)	Marketing	X	X	X
(MANG)	Management	X	X	X
(MATH)	Algebra	X	X	X
(MATH)	Calculus	X	X	
(MATH)	Statistics	X	X	X
(MED)	Emergency Care/First-Aid and CPR		X	X
(MED)	Medical Terminology		X	
(MED)	Medical Ethics		X	
(MED)	Psychoactive Drugs		X	X
(MED)	Public Health and Epidemiology			X
(PE)	Activity Courses (Weight Lifting, Tennis, Swimming, etc.)		X	X
(PE)	Adapted Physical Education		X	X
(PE)	Behavioral Modification		X	X
(PE)	Fundamentals of Dance and Movement			X
(PE)	Sports Techniques	X	X	X
(PE)	Strategies of Skill Learning		X	X
(PHYS)	Physics (For science majors)	X	X	
(POL)	Sports Law	X	X	X
(PSYC)	Abnormal Psychology	X	X	X
(PSYC)	Child Psychology	X	X	X
(PSYC)	Exercise and Sports Psychology	X	X	X
(PSYC)	Group Dynamics	X		X
(PSYC)	Health Psychology	X	X	X
(PSYC)	Human Sexuality	X	X	X
(PSYC)	Neuropsychology	X	X	X
(PSYC)	Psychology	X	X	X
(PSYC)	Psychology of Sex Differences	X	X	X
(PSYC)	Social Psychology	X	X	X
(PSYC)	Stress Management and Human Potential	X	X	X
(SOC)	Death and Dying	X	X	X

(SOC)	Gerontology	X	X	X
(SOC)	Sociology	X	X	X
(SOC)	Sports Sociology	X	X	X
	Internship	X	X	X
	Practicum	X	X	X

Department Codes:

ACCT	Accounting
AT	Athletic Training
BIO	Biology
BUS	Business
CHEM	Chemistry
COMP	Computer Science
ECON	Economics
EDUC	Education
ENG	English
ENV	Environmental Science
ES	Exercise Science
FIN	Finance
HE	Health Education
MANG	Management
MARK	Marketing
MATH	Math
MED	Medicine/Public Health
PE	Physical Education
PHYS	Physics
POL	Political Science
PSYC	Psychology
SOC	Sociology

The course work for those individuals concentrating on the scientific aspect of exercise science will be heavily based on the fundamental sciences such as anatomy, biology, chemistry, physics, physiology, and psychology. The area of specialty for those interested in the scientific aspects of exercise science will be established early in the academic career of the student. Many of those taking the scientific aspect approach are ultimately preparing for an advanced terminal degree such as a Master's or Doctorate.

The clinical aspect also draws heavily on the fundamental sciences, in addition to a broad exposure to related fields of interest. Most in the clinical aspect are preparing for fields in medicine or further education within the medical field. The service aspect draws upon a multi-disciplinary exposure, including both "hard" and "soft" sciences, business, finance, and marketing. The service aspect offers a broader approach to meeting the needs and desires of the student, but may not offer a structured, pre-determined program as commonly found with the scientific and clinical aspects. Many focusing on the service aspect of exercise science develop their own program of study, therefore they can incorporate a scientific or clinical approach to the service aspect. In this way, they can prepare for a number of career options.

Majors (or areas of concentration). By no means do the following majors represent all those found within the exercise science discipline. This lists is a compilation of those majors most frequently seen in current college bulletins. Each of these majors can accommodate interests or occupational preparation in any of the exercise science aspects.

1. Pre-Clinical Therapy
2. Pre-Medicine
3. Athletic Training
4. Exercise Science
5. Fitness
6. Wellness
7. Cardiac Rehabilitation
8. Health Education (non-teaching certification curriculum)
9. Physical Education (non-teaching certification curriculum)
10. Recreation
11. Sports Studies

Occupations in Exercise Science

The United States Department of Labor categorizes occupations in its Directory of Occupational Titles. Unfortunately, many of the occupations specific to those with an exercise science degree are not clearly represented due to vague occupational titles. Further, while the Department of Labor's listing provides occupational titles, it does not identify specific occupation description or responsibilities. Below, occupational titles are provided based on the three aspects of exercise science. While this listing is limited, it does provide basic information as to occupational divisions within the discipline of exercise science.

A. Scientific. Occupations within the scientific aspect of exercise science are designated 094 (Teaching), 099 (Adult Education), and 199 (Research).

1. Scholar/Professor
2. Researcher

B. Clinical. Many of the "medical" occupations within the clinical aspect of exercise science are designated 079 (Medical), 076 (Therapy), and 078 (Medical Technician).

1. Clinical Researcher
2. Medical Doctor
3. Doctor of Chiropractic
4. Doctor of Osteopathy
5. Orthopedic Surgeon
6. Clinical Psychology
7. Podiatrist
8. Dentistry
9. Optometry
10. Corrective Therapist
11. Physical Therapist
12. Recreational Therapist
13. Dance Therapist
14. Occupational Therapist
15. Nurse
16. Physicians Assistant
17. Exercise Physiologist
18. Exercise Test Technician
19. Athletic Trainer

C. Service. Many of the occupations within the service aspect of exercise science are designated 099 (Physical Education), 153 (Sports), and 153 (Amusement and Recreation).

1. Physical Education Instructor (not school PE teacher)
2. Health Education Instructor (not school HE teacher)
3. Fitness Instructor

    a. Aerobic
    b. Exercise Leader
    c. Strength/Conditioning
    d. Personal Training

4. Sport/Activity Instructor
5. Coach

Occupational Settings

Exercise science is a diverse discipline. Therefore, it is no wonder that occupational settings are similarly diverse. Since the task of identifying occupational setting would be very difficult specific to occupational title, identification is based on discipline aspects. This approach will better identify the emphasis of the occupational setting, however this list is not all inclusive.

OCCUPATIONAL SETTING	SCIENCE ASPECT	CLINICAL ASPECT	SERVICE ASPECT
College and University Clinic	X	X	
College and University Laboratory	X	X	
College and University Instruction	X	X	X
Collegiate Recreation Program		X	X
Collegiate Sports Program	X	X	X
Commercial Sports Club			X
Community Recreation Program			X
Community Sports Program			X
Corporate Health/Wellness		X	X
Correctional Institution Program		X	X
Federal/State/Local Agency	X	X	X
Federal/State Government Laboratory	X		
Foundations (non-profit)	X	X	
Health Club		X	X
Industry Recreation Program			X
Medical/Hospital Facility	X	X	X
Military Recreation Program			X
Professional Sports Programs	X	X	X
Research Institutes (for-profit)	X	X	
Resort Recreation Program			X
Retirement Home		X	X
Scholastic Recreation Program			X
Scholastic Sports Program		X	X
Social Agency	X	X	X
Weight Control Program		X	X
Youth-Serving Agency		X	X

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Salary Survey

Few salary surveys exists specific to exercise science professionals. This may be associated with the vast diversity of occupations within the profession and the fact that similar job titles may not involve similar job responsibilities, and therefore salary. The following information, while limited, may shed light on the selected salaries of diverse exercise professionals. The salary ranges are for full-time, entry to mid-level professionals. Regional differences are not illustrated.

Aerobics Instructor	$10,000 - $14,000
Athletic Trainer	$20,000 - $30,000
Clinical Exercise Technician	$14,000 - $22,000
Clinical Exercise Test Technician	$28,000 - $35,000
Clinical Therapist Assistant	$18,000 - $22,000
Clinical Therapist	$28,000 - $38,000
Coach (Amateur)	$16,000 - $50,000
Coach (Professional)	$100,000 - $200,000
Corporate Health Promotion	$30,000 - $50,000
Exercise Scientist	$25,000 - $35,000
Fitness Instructor	$16,000 - $40,000
Physical Education Consultant	$15,000 - $35,000
Physical Education Instructor	$16,000 - $30,000
Sport Nutrition Counselor	$12,000 - $20,000
Sport Physician	$40,000 - $60,000
Sport Psychologist	$30,000 - $50,000
Sport Sociologist	$25,000 - $35,000
Sport Orthopedic Surgeon	$60,000 - $150,000
Sport Podiatrist	$40,000 - $60,000
Sport Nutritionist	$30,000 - $100,000
Sport Physician's Assistant	$30,000 - $50,000
Sport Chiropractor	$30,000 - $40,000

According to the College Placement Council, current salary surveys suggest that those graduating with an undergraduate degree in physical education or exercise science can expect to earn a mean income between $17,700 and $23,143 in most metropolitan areas. This figure is influenced by a number of factors including the type of degree and occupational setting. Those with technical degrees in exercise science (BS) can expect to earn more on average than those with a non-technical degree (BA). Additionally, private sector employers offer salaries 10% higher than those in the public sector.

Credentialing of Exercise Science Professionals

The credentialing of exercise science professionals is a monumental undertaking since exercise science professionals include a diverse group of occupations, from aerobics instructor to orthopedic surgeon. Credentialing, while specific to the professional's occupation, is the confirmation of achievement and recognition from a government or nongovernmental agency attesting to an individual's level of professional proficiency (Summerfield, 1991). Credentialing may be earned by the individual or the institution where the individual is educated or works, and may take the form of accreditation, licensure, registration, or certification (Summerfield, 1991).

Accreditation is awarded to learning institutions or an organization's program of study for meeting acceptable levels of educational quality and integrity. However, accreditation does not mean that the "student" qualifies for certification, licensure, or registration in their chosen profession (Summerfield, 1991). For example, The George Washington University's School of Education and Human Development is accredited by the National Council for Accreditation of Teacher Education. This means that the University's School of Education and Human Development adequately provides the course work to students who wish to become certified to teach in the public school system. However, in itself, this accreditation does not certify the student to teach in public school.

Licensure is awarded to individuals or organizations which have met state-mandated standards for performance of some type of service (Summerfield, 1991). For instance, medical doctors and physical therapists are required by law to be licensed by the state in which they practice.

Registration is a formal process in which an individual's name is maintained on a registry published by an organization or government agency. Individuals must provide proof of qualifications in order to be placed and maintained on such a registry. Examples include registered nurses and dietitians.

Certification has become the wave of the future for those working in the service aspect of exercise science. Certification is similar to registration, with an individual proving their qualifications by passing an examination. It is estimated that approximately 25% of all fitness instructors in the United States has received certification from nationally recognized health, fitness, and medical organizations (New York Times, 1988). This number is expected to increase dramatically as the public becomes more aware of the importance of a trained exercise science professional (Summerfield, 1991; NASPE, 1990).

Professional credentialing is becoming a valuable asset. Credentialing gives the consumer assurances that an individual has attained a proficient level of knowledge and skill, enhances the professional image of the field, and makes an individual more marketable.

Examples of current accreditation, licensure, registration, and certification are listed below. This listing is not intended to be an all inclusive, but will serve as the preliminary information identifying both areas of credentialing and organizations which promote and perform credentialing. Following each credentialing issue, the acronym of the promoting organization is listed. Information regarding credentialing organizations is included in section XI.

Accreditation:
Accreditation of Parks, Recreation, and Leisure Services Curricula (NRPA and AALR)
Accreditation of College/University Health Education Programs (CEPH and NCATE)

Licensure:

Most clinical occupations have state and federal licensure requirements. Licensure is typically completed following graduation from the institution upon successful completion of an written examination.

Registration:

Dance Therapist Registered (ADTA)
Academy of Dance Therapists Registered (ADTR)

Certification:
Certified Leisure Professional (NRPA)
Certified Leisure Technician (NRPA)
Certified Therapeutic Recreation Specialist (NRPA)
Certified Recreational Sports Specialist (NIRSA)
Certified Health Education Specialist (NCHEC)
American Council on Exercise Aerobics Certification (ACE)
American Council on Exercise Personal Trainer Certification (ACE)
ACSM Exercise Leader (ACSM)
ACSM Health/Fitness Instructor (ACSM)
ACSM Health/Fitness Director (ACSM)
ACSM Exercise Test Technician (ACSM)
ACSM Preventive and Rehabilitative Exercise Specialist (ACSM)
ACSM Preventive and Rehabilitative Exercise Program Director (ACSM)
Certified Strength and Conditioning Specialist (NSCA)
Certified Aerobics Instructor (AFAA) (ISAT) (JI) (NDEITA) (USAA) (API)
Certified Fitness Instructor (FIT) (API)
Physical Fitness Specialist Certification (IAR)
Group Exercise Leader Certification (IAR)
Certified Athletic Trainer (NATA)
YMCA Physical Fitness, Instructor (YMCA)
YMCA Physical Fitness, Leader (YMCA)
YMCA Physical Fitness, Specialist (YMCA)
YMCA Physical Fitness, Training Instructor (YMCA)
YMCA Stress Management, Instructor (YMCA)
YMCA Weight Management, Instructor (YMCA)
YMCA Healthy Back, Instructor (YMCA)

The Future of Exercise Science

The future of exercise science and those graduating with a degree in exercise science is bright. More people are involved in sports than ever before (Heitzman, 1991). Further, the wellness movement has sparked peoples awareness of their own responsibility for health (Bucher, 1987). Both factors have stimulated the rapid growth of all aspects of the exercise science discipline (Rosenbaum, 1986). Additionally, the current concern over national health care, and its focus on prevention and rehabilitation, will add importance to the field of exercise science.

Traditionally, clinical therapy, such as physical therapy has enjoyed excellent occupation outlooks. However, athletic training, recreational and exercise leadership, and coaching have also enjoyed good occupational outlooks. Occupations expected to grow include all those within the clinical aspect, especially cardiac and pulmonary rehabilitation, and service aspect occupations which serve the elderly, disabled, children, and other special populations. Finally, the traditional physical education teacher, and the nontraditional health educator, have made a resurgence into the school gymnasium and classroom.

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The following bibliography is provided to assist in educational development, career development and job searches. However, this list does not represent all the available information on these topics. Many of the journal listed in the bibliography regularly publish updated information relating to educational and career development.

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Appendix A
Trade and Professional Associations

Academy of the Psychology of
Sports International
2062 Arlington Avenue
Toledo, OH 43609

Aerobics and Fitness Association of America
15250 Ventura Boulvard, Suite 200
Sherman Oaks, CA 91403

American Academy of Podiatric Sports Medicine
P.O. Box 31331
San Francisco, CA 94131

American Academy of Sports Physicians
28222 W. Agoura Road #105
Agoura, CA 91301

American Alliance for Physical Education,
Health, Recreation, and Dance
1900 Association Drive
Reston, VA 22070

American Association for
Leisure and Recreation
1900 Association Drive
Reston, VA 22070

American Athletic Trainers Association
and Certification Board, Inc.
660 West Duarte Road
Arcadia, CA 91007

American Chiropractic Association
2220 Grand Avenue
Des Moines, IA 50312

American Coaching Effectiveness Program
P.O. Box 5076
Champaign, IL 61825

American College of Sports Medicine
P.O. Box 1440
Indianapolis, IN 46206

American Council on Exercise
5820 Oberlin Drive
Suite 102
San Diego, CA 92121

American Dental Association
211 East Chicago Avenue
Chicago, IL 60611

American Dietetic Association
430 North Michigan Avenue
Chicago, IL 60611

American Medical Association
535 North Dearborn Street
Chicago, IL 60620

American Occupational
Therapy Association, Inc.
1383 Picard Drive
P.O. Box 1725
Rockville, MD 20849

American Optometric Association
243 North Lindbergh Boulevard
St. Louis, MO 63141

American Orthopedic Society
for Sports Medicine
60 West Hubbard Street
Chicago, IL 60610

American Osteopathic Academy
of Sports Medicine
1551 NW 54th, Suite 200
Seattle, VA 98107

American Orthotic and
Prosthetic Association
717 Pendleton Street
Alexandria, VA 22314

American Osteopathic Association
212 East Ohio Street
Chicago, IL 60611

American Osteopathic Association
212 East Ohio Street
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American Physical Therapy Association
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American Public Health Association
1015 Fifteenth Street, NW
Washington, DC 20005

American Running and Fitness Association
4405 East-West Highway, Suite 405
Bethesda, MD 20814

Aquatic Exercise Association
P.O. Box 497
Port Washington, WI 53074

Association for the Advancement
of Health Education
1900 Association Drive
Reston, VA 22091

Association of American Medical Colleges
One Dupont Circle, NW
Washington, DC 20036

Association for Fitness in Business
1312 Washington Boulevard
Stamford, CT 06902

Association of Physical Fitness Centers
600 Jefferson Street, Suite 203
Bethesda, MD 20816

Association for Worksite Health Promotion
60 Revere Drive, Suite 500
Northbrook, IL 60062

Athletic Trainers Association
638 West Durarte Road
Arcadia, CA 91006

Center for Health Promotion
American Hospital Association
840 North Lake Shore Drive
Chicago, IL 60611

International Dance-Exercise Association
4501 Mission Bay Drive, Suite 2F
San Diego, CA 92109

National Association
for Fitness Certification
336 West Bedford, Suite 109
Fresno, CA 93711

National Association for Girls
and Women in Sports
1900 Association Drive
Reston, VA 22091

National Association for Public
Worksite Health Promotion
P.O. Box 11910
Lexington, KY 40578

National Association for Sport
and Physical Education
1900 Association Drive
Reston, VA 22091

National Association of Sports Officials
1700 North Main Street, 2nd Floor
Racine, WI 53402

National Athletic Health Association
575 East Hardy Street
Inglewood, CA 90301

National Athletic Trainers Association
2952 Stemmons Freeway
Dallas, TX 75247

National Fitness Association
P.O. Box 1754
Huntington Beach, CA 92647

National Fitness Leaders Association
14800 Conference Center Drive, Suite 301
Chantilly, VA 22021

National Health Information Clearing House
1555 Wilson Boulevard
Rosslyn, VA 22209

National High School Athletic
Coaches Association
3423 East Silver Spring Boulevard, #9
Ocala, FL 32670

National Intramural-Recreation
Sports Association
Dixon Recreation Center
Oregon State University
Corvallis, OR 97331

National Recreation and Park Association
3101 Park Center Drive, 12th Floor
Alexandria, VA 22302

National Strength and Conditioning Association
P.O. Box 81410
Lincoln, NE 68501

National Youth Sports Coaches Association
1509 North Miliary Trail
West Palm Beach, FL 33409

President's Council on
Physical Fitness and Sports
450 5th Street, NW #7103
Washington, DC 20001

Sports and Cardiovascular Nutritionists
7730 East Belleview Avenue, G-6
Englewood, CO 80111

Sports Medicine Specialists
711 Stanton L. Young Boulvard, Suite 310
Oklahoma City, OK 73104

United States Olympic Committee
1750 East Boulder Street
Colorado Springs, CO 80909

United States Water Fitness Association, Inc.
P.O. Box 3279
Boynton Beach, FL 33424

Wellness Council of America
Community Health Plaza
7101 Newport Avenue, Suite 311
Omaha, NE 68152

YMCA of the USA
101 North Wacker Drive
Chicago, IL 60606

Appendix B
Credentialing Organizations

ACE
American Council on Exercise
6190 Cornerstone Court East, Suite 202
San Diego, CA 92121

ACSM
American College of Sports Medicine
P.O. Box 1440
Indianapolis, IN 46206

ADTA
American Dance Therapy Association
2000 Century Plaza, Suite 108
Columbia, MD 21044

AFAA
Aerobics & Fitness
Association of America
15250 Ventrua Blvd, #310
Sherman Oaks, CA 91403

API
Aerobic Pipeline International
3617 Drakeshire Drive
Modesto, CA 95356

FIT
Fitness Instructor Training
4338 California Street
San Francisco, CA 94118

IAR
Institute for Aerobics Research
Division of Continuing Education
12330 Preston Road
Dallas, TX 75230

ISAT
International School of Aerobic Training
555 Could Way
San Diego, CA 92117

JI
Jazzaerobice, Inc.
2608 Roosevelt Street
Carlsbad, CA 92008

NATA
National Athletic Trainers' Association
1001 E 4th Street
Greenville, NC 27858

NCHEC
National Commission for Health Education
Credentialing, Inc.
Professional Examination Service
Room 740
475 Riverside Drive
New York, NY 10115

NDEITA
National Dance Exercise Instructors Training
Association
1503 Washington Ave, Suite 208
Minneapolis, MN 55454

NIRSA
National Intramural and Recreational Sports
Association
Oregon State University
850 SW 15th Street
Corvallis, OR 97333-4145

NRPA
National Recreation and Park Association
Alexandria, VA

NSCA
National Strength and Conditioning Association
P.O. Box 81410
Lincoln, NE 68501

USAA
United States Aerobic Association
P.O. Box 1061
Williams Bay, WI 53191

YMCA
Young Men's Christian Association of the USA
101 N. Wacker Drive
Chicago, IL 60606